US006693094B2

(12) **United States Patent**
Pearson et al.

(10) **Patent No.: US 6,693,094 B2**
(45) **Date of Patent: Feb. 17, 2004**

(54) **BIGUANIDE AND SULFONYLUREA FORMULATIONS FOR THE PREVENTION AND TREATMENT OF INSULIN RESISTANCE AND TYPE 2 DIABETES MELLITUS**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 84 days.

(21) Appl. No.: **10/093,476**

(22) Filed: **Mar. 7, 2002**

(65) **Prior Publication Data**

US 2003/0078269 A1 Apr. 24, 2003

Related U.S. Application Data

(60) Provisional application No. 60/278,296, filed on Mar. 22, 2001, provisional application No. 60/278,270, filed on Mar. 22, 2001, and provisional application No. 60/278,271, filed on Mar. 22, 2001.

(51) **Int. Cl.**[7] **A61K 31/555**; A61K 31/4965; A61K 31/35; A61K 31/355; A61K 31/315; A61K 31/28; A61K 31/195; A61K 31/175; A61K 31/155

(52) **U.S. Cl.** **514/188**; 514/255.06; 514/456; 514/458; 514/494; 514/505; 514/565; 514/593; 514/635

(58) **Field of Search** 514/188, 255.06, 514/456, 458, 494, 505, 565, 593, 635

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(57) **ABSTRACT**

The invention describes formulations that include either metformin, sulfonylurea or a biguanide-sulfonylurea combination as one active ingredient in addition to specific, other active ingredients. The compositions and dosage forms of the invention are clinically useful as methods for increasing the effectiveness, efficiency and safety of the included biguanide (metformin) and/or sulfonylurea in the prevention and treatment of insulin resistance and diabetes mellitus. The carefully chosen additional active ingredients of the invention are designed in a modular fashion to prevent and rectify adverse events associated with insulin resistance syndrome and diabetes mellitus, and those adverse incidences associated with the concurrent use of metformin and/or the sulfonylureas. When clinically administered, the invention will provide therapeutic levels of metformin and of a sulfonylurea, alone or in combination, and broaden their usefulness. The invention will retard the progression of insulin resistance to type 2 diabetes, and reduce the serious microvascular and macrovascular complications commonly associated with insulin resistance syndrome and diabetes mellitus.

130 Claims, No Drawings